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FAIRFAX, B



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ORATIO Apologetica
Pro RE HERBARIA.
Contra Medicos Mathematicos.

Habita Hampstadi, in Pharmacopiorum Londonensium Comitiis Botanicis, anni praeterti ultimis.

A
S P E E C H

Made at HAMPSTEAD
At the Conclusion of the last Year's BOTANICK
MEETINGS of the Worshipful Company of London
APOTHECARIES.

Wherein is given the Idea of *Vegetation*, and a Plea for
the Use of *Botany* in *Phyfick*, against the Neglect of it,
in Favour of *Mathematicks*.

By BLACKERBY FAIRFAX, Dr. of Phyfick.

L O N D O N :

Printed and Sold by JAMES BETTENHAM, at the *Crown* in *Pater-Noster-Row*. 1718. Price 3 d.

Where is to be had a Speech made by the fame Author at the Beginning of last Year in Praife of *Botany*.

ОЯГА ОІГАДОЛОГІЧНА

ІНДІЯНСЬКА

Союз Медична Академія

Союз Медична Академія
Індіїнської та Американської
Наукової Академії

A.

ФІ. Г Е Д 92



1900-1901



To the most Potent PRINCE,
John, Duke of MONTAGUE,
Knight of the most Noble Order
of the Garter, &c.

And to the most Excellent NATURALIST,
Sir Hans Sloane, Bart. M. D.
Prince of Botanists,
Fellows of the College of PHYSICIANS.

Most ILLUSTRIOUS,
THE Conquerors of barba-
rous Nations, and the Hun-
ters down of Beasts of Prey,
have not been more cele-
brated in the Annals of Fame, than
the Inventors and Improvers of use-
ful Arts and Sciences have been; e-

D E D I C A T I O N

ven by those mighty Pagans, who have placed their chief Happiness in Monumental Glory. For as the Former render us free Agents by delivering us from our Fears; so without the Latter our peaceful Security would be little better than a State of Inactivity. For each of which parts of heroick Virtue we see Your Grace distingtishably form'd. Your Skill in the use of the Sword, and Your Knowledge in military Institutes, may at some time give You opportunity to pursue Your Father's Steps to conquest. But 'tis Nature only can give that Benignity of Temper we see shining in your domestick Oeconomy, and which has truly adapted Your Grace for an *Apollinean Opifer*, a Fellow of the College of Physicians. Such the Oriental *Mithras* was, and such was the Egyptian *Horus*, when the World knew no other Medicine but Plants.

D E D I C A T I O N.

Plants. And if the wanton Disquisitions of later Days have introduced many plausible Novelties among us, foreign to the animal Kingdom, 'tis hoped, that the Building may not over-top its Foundation. And that as Your Grace has thought the learned Art of Physick deserving Your Favour; an Apology for the due Esteem of so material a Part of it as is Botany may not be unworthy Your Grace's Notice, and the Science Your Encouragement. So that in the Times of Peace and War, You may be equally illustrious; whether the Honour of Your Country calls You to the one, or the peaceable Good of it to the other.

Your Princely Gift, Sir *Hans*, to the Garden of *Chelsea*, has at once perpetuated the Memory of Your Skill in Botany, and secured the grateful Acknowledgments of the

many

XATRIAH JB

DEDICATION.

many Lovers of the Science, who are like to receive the Benefit of it.

And when your glorious Example shall have kindled an Emulation of such laudable Actions in the Body of that learned College, which you adorn with Membership; 'tis hoped we may see a Phyfick-Garden in *England*, no ways inferiour to any beyond Sea; and that we may exceed Foreigners, as much in opportunities of Improvement in Phyfick, as our Phyficians do theirs, in the judicious Practice of it; which happy Days none would with more Gladness see, than, may it please,

Most Illuftrious, & Most Obedient
Sir Thomas Fairfax

Your most Humble and

Obedient Servant,

John Fairfax

London, 1672.

Bl. FAIRFAX.



O R A T I O.

*Viri Doctissimi, Magistri
Artis Pharmaceuticæ.
in dieo in exercitio abhui datur
Juventus Ingenua.*

Tandem valedicendum est mansuetō hujus Societatis Præsidio, novum bonæ spei mox datur. Tandem vacare opportet lautis Coryphæorum epulis, imitandis, non anteferendis. Tandem ad finem sunt perducta hujuscē anni exercitia Botanica. Et æstivi temporis spatiū, herbæ aetas, vobis dedit incruentis incumbere dissectionibus; & plantas, ab incunabilis ad interitus suos, contemplari. Contemplari. Ut à radicula, è plantulâ seminali protrusa, primordia ducant: Ut à succo in cotyledonibus præparato embryoni enutratur, usque dum spongiosum ejus corpus terrenum humidum incipit lactere. Ut explicatæ cymatum fibræ in herbaceam & ligneam substantiam transeant, & in caules, truncos, ramos, folia, flores

The S P E E C H.

Most Learned Doctors,
Master Apothecaries.

Ingenuous Youth.

AT length we are to bid adieu to the courteous Governors of this Society, and to see their Places supplied by hopeful Successors. At length is come a vacation from the Entertainments of our Leaders, which may admit of Imitation, but not outdoing. At length the Botanical Exercises of this Year are brought to conclusion. And the Space of a Summer, the Age of a Plant, has given you opportunity of being employed in bloodless Dissections, and to survey Herbs, from their Cradles to their Graves. To Survey, How from the Radicle emitted from the Seed they take their Origin: How from the Juice prepared in the seminal Secundines, the Embrio is nourished; till its spongy Body is fit to suck the earthy Moisture: How the unfolded Fibres of Sprouts pass into herbaceous and woody Substances; and

res, fructus erectæ, varia for-
ment vasa, acrii contenti,
& dissimilis liquidi capacia.
Ut hæ fibrae quandoque ac-
quirant subtilitatem sensus
æmulam, minofas cum my-
tilorum genere confundentes;
Ut vegetabilia fluida circuitus
peragant, non secus ac ani-
malia: utique per varios per-
colata Utriculos, & diversum
audiant nomen, diverso in-
serviant usui; plantæque, ve-
luti pecudes, in gumini & re-
finis lactiferat, sua evanuent
vafa, in vita humana com-
modum. Ut sexu differentes,
& prout infinitordinis, ani-
malia, singulæ usitatissime sint
Androgynæ. Ut pistillum uero-
ri farinaceam Venorem ab
apicibus staminum sparsam,
sitiens captet, inferiusque re-
condat; sive hæc generatio-
nis organa eodem flosculo
contineantur, sive contigu-
itate distent, sive totis etiam
plantis à fructibus summo-
veantur. Ut insectorum in-
modum, post peractum gene-
tione officium, partos fru-
ctus & ejecta femina, viven-
di fine perfunctæ esse vide-
antur; nam quamvis multa-
rum stirpium magna pars
annuat evitet mortem, ta-
men multo major est ea ve-
getabilium portio, quæ hye-

mali

and when carried up into Stalks,
Trunks, Boughs, Leaves, Flowers,
Fruits, form various Vessels, ca-
pable of an aerial Content, and
a dissimilar liquid. How these
Fibres sometimes acquire a Sub-
tlety so near a kin to Sense, that
it is difficult to say whether the
sensible Plants are to be called
Animals, or the Muscle-kind to
be esteemed Plants. How the ve-
getable Fluids circulate as well as
the animal. And when strained
thro' various globular Glands,
they obtain different Names,
and serve to different Uses; so
that Plants like Milk-Gattie,
in Gums and Balsams evacuate
their lactiferous Kessels to the Ad-
vantage of Mankind. How they
differ in Sex, and like the lower
Rank of Animals, are usually
each of them Hermaphrodites.
How the Pistillum of the Ute-
rus attracts the Male-dust shed
from the Summits of the Chidæ,
as the parch'd Earth drinks up
Showers, or like that Feminine
Suction which is in the Ecstasy
of animal Conception; whether
these Organs of Generation be
contained in the same Flower, or
are separated to a contiguous di-
stance, either in the same, or
different Plants. How, in the
manner of fusilli, after having
performed the Office of Generati-
on, and brought forth their Fruits,

All the parts are pulped, and

mali succumbens frigori Mar-
cescit, Cadit, Interit.

Contemplatio sanè homini
pio satis grata; homine phi-
losopho admodum digna, ho-
mini medico cui in professio
rest est, quid natura faciat
aut ferat perscrutari, summè
certè utilis, si non necessaria
est habenda.

Rectum est index sui &
obliqui. Et qui directos na-
turæ cursus ignorat, ejus de-
viations nunquam callebit:
qui naturalem & sanum cor-
poris statum non novit, præ-
ternaturalem & morbosum
neutiquam rite noverit: in-
gressusque labyrinthum phy-
sicum nusquam se extricabit,
nisi Analogismum adhibuerit
ducem.

Itaq; non satis mirare queo
naturalem historiam & ana-
tomiam comparativam per
tantos retro annos, & tantâ
laude à nostris physicis ex-
cultas, præ Matheſi de nupe-
ro vilescere. Acſi Eterna
Idea in animatione, admini-
culiſ uteretur humanis, & no-

and dispersed their Seed, [they]
seem to have answered the End
of their Creation. For altho' a
great part of many Plants avoids
an annual Death, yet much grea-
ter is that vegetable Portion,
which oppressed by each Winter's
Cold, fades, falls, dies.

A Survey to a pious Man suf-
ficiently acceptable; to a Philoſo-
phical Head an agreeable Amuse-
ment; to a Physician, whose Pro-
fession it is to observe what Na-
ture will do or suffer; certainly
to be accounted highly useful, if
not necessary.

A strait Line is the Index of
it self, and Obliquity; and he
who does not know the direct
Course of Nature, will never
underſtand its Deviations; he
who is ignorant of the natural
and healthy State of the Body,
will never be rightly Skilled in
the preternatural and diseased
State of it. And whoſoever en-
ters the Labyrinth of Physick, is
never like to pass thro' it, but
by help of the Clue of Analogism.

Therefore I know not how ſuf-
ficiently to admire, that natural
History and comparative Anato-
my which have been ſo commenda-
bly cultivated among us by our
Physicians for many years past,
should of late be laid aside for the
Study of Mathematicks, as if the
Eternal Idea, built by Mechanick

stū cum divinis modulis sint
conferendi.

Metienda tellus est; sonus
est modulandus; & cœli spa-
tia mensuræ subjiciuntur. At
quis invisibilis, inaudien-
dis, intractandis dabit mo-
dum?

Dari in corpore animato
trochleas, hypomodlia, vectes
anatomistarum quissimam fa-
cili negotio fingat. Quis ra-
men spiritus animales, aetio-
num animalium momenta, di-
metietur, dicam an definiat?

Vasa sanguifera esse officia
suis proportionata quis du-
bitat? At quis vim cordis im-
pulsivam, cruentæ circulati-
onis dominam proportioni re-
ducet?

Ab inoculatione satis con-
stat fluidi contenti diversita-
tem, à diversâ canalium fecer-
nentium strukturâ pendere;
at quis diametros tubolorum,
aciem opticam fugientium
metiri tentabit?

Sunt & hæc fundamenta
Algebraicis æquationibus apta?
& hiccine est debitus
magnæ artis matheſeos uſus?

Et

Powers, and humane Modules,
were to be compared with divine.

The Earth is to be measured;
Sound is to be set to Tune; and
even the immense Space of the
Heavens is reducible to Mensu-
ration. But who ſhall reduce to
measure that which our Sight
can't attain to, our Ear be af-
fected with, or our Fingers handle?

That there are in animate Body,
Pulleys, Rests, Leavers, &c. any
Anatomist may with Plausibility
enough make appear. But who
ſhall measure, ſhall I ſay, or define,
these animal Spirits, which are
the Spring of all animal Action?

That the Blood-Vessels are
proportion'd to their proper Of-
fices, who doubts? But who ſhall
confine to measure, that Lord of
the Blood's Circulation, the im-
pulsive Force of the Heart?

From Inoculation it is mani-
fest, that the diversity of the
contained Fluid depends upon
the divers Structure of the Se-
cerning Channels. But who ſhall
undertake the Mensuration of
the Diameters of thosé Tubules,
which the neſteſt Glasses can ne-
ver give us a Sight of?

Are these Foundations proper
for Algebraical Equations to be
built upon? Is this the genuine uſe
of that great Art Mathematicks?

And

At quæ tanta ad augendam Therapeuticen attulere medici hi mathematici?

Hic demonstrat moleculas in Scotomiis visuales non esse revera corpora in humoribus oculi fluitantia.

Alter ait venena pollere videlendi vitam ob aculeatas quibus constant particulas.

Pulchra sanc*tè* inventa, & tanto digna hiatul.

Sic fallas mirantur quidam mentis vires, dum veras negligunt.

Novas naturæ leges machinantur, dum notas majoris pretii prætereunt.

In Pitcairnii magistri sui phantasmata jurant, dum ab Experimentalis Philosophiæ Cynosurâ Bacono aberrunt. Vilique pendent grande ejus axioma — Tantum quisque in physicis proficisse dicendus est, quantum de naturæ ordine observavit.

Est natura uspiam videntia, incompositis, incoactis viribus agens? Sponte nascientia producens est videnda. Sunt ejus ordo & pulchra varietas admiranda? In specificis plantarum differentiis sunt

And after all, what so great Matters towards improving the Therapeutick Art have these Mathematical Physicians brought us.

One of them at great Expence of Algebra proves, that the Motes which in Scotomias we seem to have in our Eyes, are not real Bodies fluctuating in them.

Another demonstrates, that the Power Poisons have to quench Life, proceeds from the aculeated Particles they are composed of.

Great Discoveries indeed, and worthy so much Clutter!

Thus do some vainly admire the false Powers of human Understanding, while they neglect the true ones.

They are for contriving new Laws of Nature, while they pass by known ones of greater Value.

They pin their Faith upon their Master Pitcairn's Sleeve, forsaking that great Guide to the experimental Philosophy Bacon, and undervaluing that great axiom of his—so much Proficiency shall any one be accounted to have made in Physicks, as are the Observations he has made in the order of Nature.

Is Nature anywhere to be seen acting with uncompounded, unforced Power? in her spontaneous Product she is to be observed. Is her Beauty delightful to behold? The Culture of Flowers is delightful.

sunt admiranda. Est ejus
venustas decorā spectatu de-
lectabilis? Cultura florū est
delectabilis. Est scientia à
multiplici usu æstimanda; hoc
etiam nomine Botanice est
æstimanda. Est Paradisus.
copiosa amænitas? hortus est
paradisus.

Jactat antiquitas hesperi-
dum hortos. Et nunc etiam
jactat Batavia suos Lugdunen-
ses, Gallia, Parisienses, Germa-
nia, Lipsienses; Italia, Pata-
vinos; quicquid fama canit,
id vobis donat Pharmacopeio-
rum Londinensium societas in
hortis Chelseianis & Randianâ
solertiâ.

Quicquid agunt homines
ut lucentur agunt. Et post
exantlatos labores & evitata
pericula, dulce otium optat
& animosus & industrius. At
quos ad honestas actiones ur-
geret fruendi voti voluptas,
eos ut plurimum terret agen-
di cura. Hisce comitiis du-
plicis suistis compotes utili-
tatis, his habuistis negotiūm
absque anxietate, cum emol-
lumento otium.

Vobis itaque Præsidi & Cu-
stodibus morum candore in-
signibus, vobisque lautis co-
ryphæis sint posperi dies, &
læta res, qui nobis hæc utilia
otia fecistis.

ful. Is a Science to be esteemed
for its various use? Even in this
respect is Botany to be esteemed.
Is Paradise Pleasure in abun-
dance? A Garden is a Paradise.

Antiquity boasts of the Gar-
den of Hesperides. And at this
Day Holland boasts of theirs of
Leyden, France theirs of Paris,
Germany theirs of Lipsick, Ita-
ly theirs of Padua. Whatsoever
ye have in the relations of Famine,
that does the Society of London
Apothecaries give ye in the Gar-
den of Chelsea, and the Dili-
gence of Mr. Rand.

All Men propose some Ad-
vantage in their Actions. And
after the greatest toil, and escapes
from Danger, Leisure and Ease
are in the Wishes of the Men of
Courage as well as the Industri-
ous: But they whom the Plea-
sure of obtaining their Desires
would put upon honourable Acti-
ons, are generally deterred from
them, by the trouble of putting
them in Execution. In these
Assemblies ye have had a two-
fold Profit. Here ye have had
Employment without Anxiety,
and Pleasure with Profit.

Therefore may Health and
Happiness attend ye courteous
Master and Wardens, and ye
generous Leaders, to whom we
owe these useful Pleasures we
have had.

